

REMARKS/ARGUMENTS

Upon entry of this Response, Claims 1-17 and 19-38 remain pending in the present application.

In the October 18, 2004 Final Office Action, Claims 17 and 19-23 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kelton et al. (U.S. Patent No. 5,745,527, previously cited) in view of U.S. Patent No. 5,847,602 to Su (hereinafter referred to as “Su”). Claims 33-35 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Su in view of U.S. Published Patent Application No. 2002/0168026 to Khoini-Poorfard (hereinafter referred to as “Khoini-Poorfard”) or U.S. Patent No. 6,148,040 to Nguyen et al. (hereinafter referred to as “Nguyen et al.”). Claims 1-16, 26-32, 37 and 38 have been allowed. Finally, Claims 24, 25 and 36 were objected to as being dependent on rejected base claims (independent Claims 17 and 26), but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

For the following reasons, Applicant believes that the rejections cannot be properly maintained, and the claims as they are now pending are in a condition of allowance.

35 U.S.C. § 103(a) Claim Rejections – Claims 17 and 19-23

On pages 2-3 of the October 18, 2004 Final Office Action, Claims 17 and 19-23 are alleged to be obvious over Kelton et al. in view of Su. For the following reasons, Applicant respectfully disagrees.

Kelton et al. disclose a symbol generator that performs the steps of: dividing an information bit stream into a set of successive representations of constellation symbols, each with a symbol interval, and finite impulse response filtering each constellation symbol of the set of successive representations of constellation symbols to produce at least one filtered symbol sample per symbol interval.

In column 5, lines 22-30, Kelton et al. describe how the symbol generator 10 may operate under a time division multiplex access (TDMA) format. According to the TDMA format, a 7 bit counter and ramp down control 16 functions to ramp the output signal at a beginning and an end of a transmission burst. Ramp-up control is provided within the 7-bit counter and ramp down control 16 by successively shifting values of zero into tap positions (from left to right) across the filter tap register 12 during ramp-up. During ramp-down the 7-bit counter and ramp down control 16 successively shifts zeros into filter tap positions from (right to left).

Su discloses an RF amplifier having a magnitude amplification path for the magnitude component of an RF input signal, and a phase amplification path of the phase component of the RF input signal. The magnitude amplification path employs a delta-modulated magnitude amplifier, which introduces a smaller amount of nonlinearity than traditional approaches based on pulse-width modulation.

By contrast, independent Claim 17 of the present application claims “circuitry for controlling ramping of a communications signal including” that includes “means for adding a predetermined sequence of symbols to a sequence of information symbols to be communicated to form an augmented sequence of symbols” and “a first modulator for performing modulation of the augmented sequence of symbols to produce an envelope

signal that exhibits a desired ramp profile.” As explained below, Kelton et al. and Su, whether considered individually or in combination, do not teach these aspects of Claim 17.

Kelton et al. discloses a “constellation symbol generator 10” that includes, among other components, a “serial to parallel converter and phase mapper 11”, a “filter tap register 12” and a “7 bit counter and ramp down control 16”. In the Office Action it is asserted that the filter tap register 12” and a “7 bit counter and ramp down control 16” components together operate to generate an augmented sequence of symbols by adding a predetermined sequence of symbols to a sequence of information symbols to be communicated, as Claim 17 recites. Applicant respectfully disagrees. The “filter tap register 12” does not add a “predetermined sequence of *symbols*” to the sequence of symbols received at its input. The “counter and ramp down control 16,” despite what seems to be suggested in the Office Action, does not generate or supply a predetermine sequence of symbols. The values provided by the “counter and ramp down control 16” are coefficients to be applied to the taps of the “filter tap register 12”. They are *not* “symbols”. Moreover, the tap coefficients provided by the “counter and ramp down control 16” are not added to the symbol data (e.g. the 0₂0₁0₀) input into the “filter tap register 12”, as Claim 17 of the present invention requires, in order to form the “augmented sequence of symbols”. Su adds nothing to change the fact that Kelton et al. fails to teach or suggest the first element of Claim 17.

Kelton et al. in view of Su also fails to teach or suggest the second element of Claim 17, i.e., “a first modulator for performing modulation of the augmented sequence of symbols to produce an envelope signal that exhibits a desired ramp profile.” First, as

explained above, Kelton et al. in view of Su fails to teach or suggest forming of an “augmented sequence of symbols” by adding a predetermined sequence of symbols to a sequence of information signals. Because the references do not teach or suggest the forming of an “augmented sequence of symbols”, by this or any other manner, no “augmented sequence of symbols” exists in Kelton et al in view of Su. Absent the existence of an “augmented sequence of symbols,” there can be no “first modulator” in Kelton et al. in view of Su that “perform[s] modulation of the augmented sequence of symbols,” as Claim 17 recites.

Third, in addition to Kelton et al. in view of Su failing to teach or suggest the forming of an “augmented sequence of symbols”, and failing to teach or suggest modulating such an “augmented sequence of symbols” using a “first modulator,” Kelton et al. in view of Su also fails to teach or suggest a “first modulator” that modulates “an augmented sequence of symbols” to produce “an envelope signal that exhibits a desired ramp profile.” Both Kelton et al. and Su are completely silent concerning a “desired ramp profile”.

For at least the foregoing reasons, Applicant respectfully believes that that § 103 rejection of independent Claim 17 cannot be properly maintained, and requests, therefore, that the rejection be withdrawn.

Claim 19 was also rejected as allegedly being obvious over Kelton et al. in view of Su. Applicant respectfully disagrees. Kelton et al. discloses a “constellation symbol generator 10” that includes a “filter tap register 12” and a “7 bit counter and ramp down control 16”. Figure 1 of Kelton et al., together with column 5, lines 24-30, explain that zeroes can be shifted across the filter tap positions of the filter tap register 12 during ramp

up and ramp down. These zeros applied to the taps of the filter during ramp up and ramp down are not symbols, they are filter tap coefficients.

Claim 19 is also allowable for depending from an allowable base Claim 17. For at least these reasons, therefore, the § 103 rejection of Claim 19 cannot be properly maintained, and Applicant requests that it be withdrawn.

Claims 20-23 were also rejected as allegedly being obvious over Kelton et al. in view of Su. Applicant respectfully disagrees. Claims 20-23 are allowable for depending from an allowable base Claims 17, and, except for Claim 23, for depending from an allowable dependent Claim 19. For at least these reasons, therefore, the § 103 rejection of dependent Claims 20-23 cannot be properly maintained, and Applicant requests that they be withdrawn.

35 U.S.C. § 103(a) Claim Rejections – Claims 33-35

On pages 3-4 of the Office Action, Claims 33-35 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Su in view of Khoini-Poorfard or Nguyen et al. For the following reasons, Applicant respectfully disagrees.

Khoini-Poorfard discloses a multi-protocol modulator capable of supporting two or more different modes of operation, each mode of operation corresponding to a different type of modulation. Nguyen et al. disclose a GMSK carrier tracking loop. The carrier phase tracking is performed at baseband to save power.

By contrast, independent Claim 33 claims a “ramping apparatus” that includes, among other elements, a “ramp generator operable to generate a ramp signal” and a “non-linear power amplifier having a phase input port configured to receive the GMSK signal

and an amplitude port configured to receive the ramp signal. As explained below, there are a number of reasons why the cited prior art does not render obvious the subject matter claimed in Claim 33 of the present application.

First, the cited prior art does not in any way teach or suggest a “ramp generator”. Despite what is asserted in the Office Action, the magnitude amplification path 31 of the RF amplifier in FIG. 3 of Su is *not* a ramp generator. The other two references do not alter this fact. Accordingly, for at least this first reason, the § 103 rejection of Claim 33, as allegedly being unpatentable over Su in view of Khoini-Poorfard or Nguyen et al., cannot be properly maintained.

Second, none of the cited references teach or suggest a “ramping apparatus” including “a non-linear power amplifier having...an amplitude port configured to receive the ramp signal.” As just explained, none of the cited references teach or suggest a “ramp generator” that is “operable to generate a ramp signal,” as Claim 33 of the present application does. For this reason, there can be no non-linear power amplifier having “an amplitude port configured to receive the ramp signal,” as Claim 33 recites. The non-linear amplifiers identified in the Office Action as corresponding to the “non-linear power amplifier” in Claim 33 does *not* have an amplitude port configured to receive a “ramp signal”. Accordingly, for at least this second reason, the § 103 rejection of Claim 33, as allegedly being unpatentable over Su in view of Khoini-Poorfard or Nguyen et al., cannot be properly maintained.

Claim 34 was also rejected for allegedly being obvious over Su in view of Khoini-Poorfard or Nguyen et al. For the following reasons, Applicant respectfully disagrees. First, Claim 34 derives patentability from independent Claim 33, which above Applicant

has demonstrated is allowable over the prior art of record. Second, not only does the cited references fail to teach or suggest a “ramping apparatus” having a “ramp generator” that generates a ramp signal, they also fail to teach or suggest such an apparatus having a ramp generator that employs an EDGE pulse to generate the ramp signal. In the Office Action, paragraph [0026] of Khoini-Poorfard is cited, without explanation, to support the rejection. However, a reading of paragraph [0026] of Khoini-Poorfard reveals that there is absolutely no teaching or suggestion as to how the subject matter discussed in that paragraph might be used to modify Su in a manner that would result in a ramping apparatus having a ramp generator that “employs an EDGE pulse to generate [a] ramp signal,” as Claim 34 claims. Accordingly, for at least these reasons, Applicant believes that the § 103 rejection of Claim 34, as allegedly being unpatentable over Su in view of Khoini-Poorfard or Nguyen et al., cannot be properly maintained. Applicant requests, therefore, that the rejection be withdrawn.

Claim 35 was also rejected for allegedly being obvious over Su in view of Khoini-Poorfard or Nguyen et al. For the following reasons, Applicant respectfully disagrees. First, Claim 35 derives patentability from independent Claim 33, which above Applicant has demonstrated is allowable over the prior art of record. Second, irrespective of the accuracy of the references made in the Office Action to the alleged prior art, there is no teaching or suggestion in any of the references that would suggest or motivate one of skill in the art to modify Su in the manner proposed in the Office Action. Without some demonstrated suggestion or motivation to combine, a § 103 rejection cannot be properly maintained. *See* M.P.E.P. § 2143.

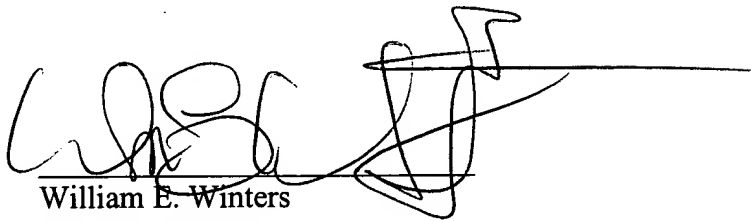
CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 408-282-1857.

Respectfully submitted,

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